

CHAPTER I

INTRODUCTION

A. Background

Islam is a religion that was revealed to the prophet Muhammad SAW. as the last of the prophets and apostles to guide all human life until the end of time. As manifestations of the pillars of Islam, it is a major command of almighty God is prayer. This command is directly revealed by God almighty to all human beings who believe in Muhammad.¹

Prayer is the pillar of Islam. In same of the foregoing that the first hippie later on the day of reckoning is prayers. Order of prayer is mentioned in the Qur'an, even with language indicating that the order confirmation is required.² However, the Qur'an does not explain at all about the conditions and order. A description of the technical provisions prayer that is exemplified by prophet Muhammad SAW. as in the hadith:

إِذَا قُمْتَ إِلَى الصَّلَاةِ فَأَسْبِغِ الْوُضُوءَ ثُمَّ
اسْتَقْبِلِ الْقِبْلَةَ فَكَبِّرْ

That is: "if you want to pray, complete your wudu' and then facing the Qibla, then thrash" (HR. Bukhori no. 6251, Muslim no. 912)

¹ Syed Mahmudunnasir, *Islam: Konsepsi dan Sejarahnya* (bandung: Rosda, 1981), P. 429.

² "Shalat Tiangnya Islam", in <https://rumaysho.com/5911-shalat-adalah-tiang-agama.html>. Accessed on February 26, 2017.

花 太阳 上 下 左 右 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Indonesia muslims generally believe this direction is west so synonymous with the west where the sun sets. As a result, they pray for it to be facing to west, wherever they are. In fact, the reality is not exactly the position of Indonesia in the east of the temple but rather oblique. Qiblah problem becomes a simple matter which can be determined by knowing the direction of the sunrise and sunset.

³ "Tata Cara Takbiratul Ihram", in <https://muslim.or.id/12299-tata-cara-takbiratul-ihram-dalam-shalat.html>. Accessed on March 27, 2017.

In Indonesia had an alignment direction was made by the founder of KH Ahmad Dahlan spearhead change the direction in Yogyakarta there was a strong reaction against it to the extent suraunya razed to the ground. According to the calculations of science falaq in dominate, the direction is right in Yogyakarta is facing toward the northwest and was not to try and fight his own opinion carefully and wisely but would be excessive reaction and disproportionate.

The second problem, it is clear that the issue of “Accuracy” a very important issue in determining the direction of Mecca. Because, based of texts of Qur’an and hadiths as proofs obligation facing direction in prayer is to do with how physical facing temple for those who were around the temple and facing towards Mecca for those who are outside.⁴

Facing to direction of prayer is a requisite legal agreement (consensus of scholars). Ibnu Qudamah Rahimahullah said, “is a requirement for legal facing direction of prayer, both in the obligatory prayer or praying sunnah”.

Allah says in the holy Qur’an as follows:

فَوَلِّ وَجْهَكَ شَطْرَ الْمَسْجِدِ الْحَرَامِ وَحَيْثُ
مَا كُنْتُمْ فَوَلُّوا وُجُوهَكُمْ شَطْرَهُ

That is: turn your face towards the grand mosque. And wherever you are, turn to him (QS. Al-Baqarah: 144).

Facing the qiblah direction means facing the temple/house of prayer for the people in the area facing to the grand mosque and the grand mosque for prayers

⁴ Maskufa, *Ilmu Falaq* (Jakarta: GP Press, 2009), P. 123-124.

person, and illegal land facing toward Mecca for prayer outside the region. Provisions regarding the direction qiblah as narrated by Imam Bukhari and Muslim from Muhammad SAW.:

إِذَا قُمْتَ إِلَى الصَّلَاةِ فَأَسْبِغِ الْوُضُوءَ ثُمَّ
اسْتَقْبِلِ الْقِبْلَةَ فَكَبِّرْ

That is: if you want to pray, complete your wudu' and then facing the qibla, then thrash. (HR Bukhori no. 6251, Muslim no. 912).

Facing the qibla becoma legal conditions for muslim who want to pray a good prayer obligatory file daily prayers or circumcison others. The rule for determining the derection requires a special knowledge to be learned, or at least believes direction permitted to conform to the law.⁵

Historically the method of determining the direction in indonesia developed in accordance with quality and intellectual capacity among the muslims. The development of the direction determination can be seen from a major change in the time of Muhammadiyah Arsyad Al-Banjari and KH. Ahmad Dahlan or can be accesses from the tools used to measure it, as miqyas, istiwa stick, rubu' mujayyab, compas and theodololite. In addition, the calculation system used is also experiencing growth.⁶

The existence of natural phenomena such as earthquakes that frequently hit the Indonesia island of Java, especially in recent years this has led to a change in

⁵ A. Kadir, *Formula Baru Ilmu Falak* (jakarta: Amzah, 2012), P. 52.

⁶ "Penentuan Arah Kiblat", in <http://lilihazali-alislam.blogspot.co.id/2010/04/ilmu-falak-menentukan-arrah-kiblat.html>. Accessed on February 26, 2017.

the direction of mosques in the area. It can indeed be logic by the public, because the phenomenon of tectonic earthquakes are caused by the earth's plates shift, triggering earth tremors and massive crustal movement, which led to the shifting of existing buildings on the surface of the earth, oncluding mosques.⁷

People always build a place of worship to determine the direction of Mecca wearing two ways. *First*, following the direction of the mosque or the mosque there first. This will result in an incorrect determination of the direction when the direction of the mosque and praying that followed also wrong. *Second*, facing west on the assumption that the direction identical to the direction of the west. How this is done by those who are less concerned about the legitimacy of the conditions facing determination of the direction is wrong because the assumption is also wrong.⁸

On case in particular mosque communities in Madura Pamekasan district Pademawu use the second ways, which is identical to the direction in facing west. Meanwhile mosques in districts Pademawu mosque is located in an area with a patters plosok traditional society.⁹

Based on the above researchers conducted a study 3 of 6 existing mosques. Among these is the name of a place of worship masjid Nurul Falah, masjid As-Syuhada' and masjid Al-Falah. The masque is one of them built or renovated in a

⁷ "Fatwa MUI Tentang Bergesernya Arah Kiblat", in <http://borubatubaradddffhutapungkuthhh.blogspot.co.id/2010/07/fatwa-mui-tentang-bergesernya-arrah.html>. Accessed on March 27, 2017.

⁸"Penentuan Arah Kiblat", in <http://www.taufiq.net/2012/09/menentukan-arrah-kiblat.html>. Accessed on March 28, 2017.

⁹"Ciri-Ciri Masyarakat Tradisional dan Modern", in <https://angqarestupambudi.com/2011/11/17/ciri-ciri-masyarakat-tradisional-dan-modern/>. Accessed on March 30, 2017.

flat on the mosque/hit and long, without reviewing the method of calculation of a direction with the correct direction.¹⁰

Initiative to do the right direction will be difficult to achieve if local communities rely thinking. Because in addition to its scientific limitations, the results of any society always receive religious leaders or community leaders. So if leaders or leaders is not concerned about the direction that there is, then public silent too.

Organizers concluded that research on the determination of the direction it is still important to do. In this study, the compiler will use a tripod, compass, elbow, calculator, large bow and a white thread. Such a device for determining the direction to test the accuracy of the direction which has existed in mosques sampled.

B. Problem

From the background of the problems mentioned above, there are some fundamental problems which can be summarized as follows:

1. How to determine the direction of qibla mosques in the Pademawu Sub-district, Pamekasan district Madura?
2. How do the accuracy of the direction of mosques in the Pademawu Sub-district, Pamekasan district Madura?

C. Purposes

The aim of this study is as follows:

¹⁰ The author conducted a small observation by interviewing the character of Abdul Aziz who knows the history of the construction/renovation of the mosque sample. The result shows that the mosque is the direction of the Qibla determined by the builders without a scientific method that can be justified.

1. To know how to determine the direction of Mecca mosques in the Pademawu Sub-district, Pamekasan district Madura.
2. To know the accuration of direction of Mecca mosques in the Pademawu Sub-district, Pamekasan district Madura.

D. The Benefits

Pay close attention the purposes of the research, so expected this research can use for practice and scientific importance. In a specific manner is expected of this research is:

1. Giving information for society specially religioue figure at the neighborhood of the mosque about an exact consideration of direction of Mecca.
2. Giving explanation in decision direction of Mecca generally.

E. Study of Literature

Truly about direction of Mecca has made done. Both by earlier scholar of Islam, nowday scholar of islam, or by all researchers or observers study astronomy has many books of Fiqih, books, articles, and the results of research who study about direction of Mecca. Nevertheless has not found a research that study by deeper about the use of tripod, compass, rifflebut, calculator, arch, and big white yarn in decision direction of Mecca of a mosque in this study time. The writer will do a research at mosques that was in Pademawu Sub-district, Pamekasan district Madura.

Fathiatu Sa'adah opus describe the usage of compass in computation direction of Mecca that's has tittle "Determining Direction of Mecca of Mosque at

Salatiga City (Comparison Between the Measuring Direction of Mecca by Use Compass and Rash Al-Qibla).¹¹ In this opus explain how is the olcuration of the usage of compass and compare with the usage shadows of Mecca (Rash Al-Qibla) or shadows of Mecca that was formed by sunray in certain time that is when sunray was on Mecca exactly. But in that opus don't study deeply and the object interrelated with the usage of compass well and correctly that can finish that problem of computation direction of Mecca.

The other opus is not inferior in importance is a research that has tittle "The Influence Shift of Lithosphere Toward Ditermining Direction of Mecca Mosque in Yogyakarta".¹² Where's in the research don't study comprehensive about the methods computation direction of Mecca particularly the usage of compass but the explanation more focus to the influence shift of lithosphere to phenomenon of earthquake in Yogyakarta 27th May 2006 toward direction of Mecca of mosques at sample.

The other opus is not inferior importance is a research that has tittle "Study About Verification Direction of Mecca of Mosque in Surakarta", ¹³ usually just relied havily on verification direction of Mecca of mosque in Surakarta without trace more continue about the methods or systems that use in determine direction of Mecca of that mosque.

¹¹Fathiyatus Sa'dah, "Penentuan Arah Kiblat Masjid-Masjid di Kota Salatiga (perbandingan antara pengukuran arah kiblat menggunakan kompas dan rash Al-Kiblah)", Skripsi Uin Sunan Kalijaga Yogyakarta, 2011.

¹²Evi Dahliyatini Nuroini, "Pengaruh Pergeseran Lempeng Bumi Terhadap Penentuan Arah Kiblat Masjid-Masjid di Kota Yogyakarta", Skripsi Uin Malang, 2010.

¹³Ismail Khudhori, "Studi Tentang Pengecekan Arah Kiblat Masjid Agung Surakarta", Skripsi IAIN Walisongo Semarang, 2005.

Iwan Kuswidi's opus that has title "The Application of Trigonometry in Determining Direction of Mecca".¹⁴ This script explains about computation of direction of Mecca that's done on earth's surface whose shape is close to a sphere. It uses spherical triangle arithmetic. The forms of that trigonometry are applied to determine the direction of Mecca.

Based on the composer's investigation, some of the opuses can conclude that this opus is the first step in describing and studying that better to the usage of tools is like tripod, compass, right-angle, calculator, arch and big white yarn in determining direction of Mecca well, specially to the mosque that is the research object.

F. Theoretical Framework

Knowing direction of Mecca is one of the conditions to take prayer validly, because of that knowing about a lot of direction of Mecca and the way to determine that direction certainly is very important in order that religion service that is done can absolutely have faced to the Mecca.

Determining direction of Mecca is the same as determining azimuth of Mecca exact on earth's surface, so very first have to about the direction of Mecca.¹⁵

Award of "direction" has meaning direction and purpose. Also there is given meaning as "direction" as a jihad, syathrah and azimuth. While a word of "qiblah" has meaning ka'bah which has place in Masjidil Haram Mecca. In terminology that's a

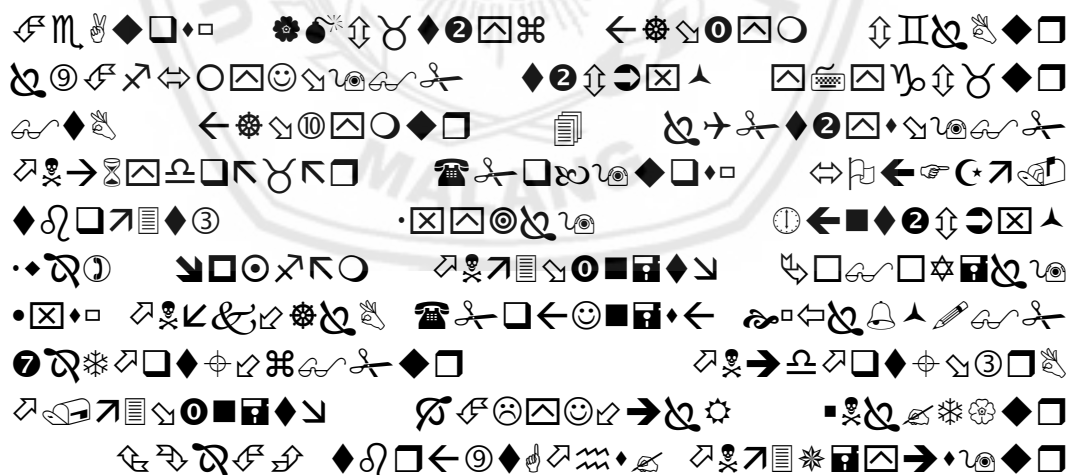
¹⁴Iwan Kuswidi, *"Aplikasi Trigonometri Dalam Penentuan Arah Kiblat"*, Skripsi Uin Sunan Kalijaga Yogyakarta, 2003.

¹⁵ Sriyatin Shadiq KM, *Ilmu Falak* (surabaya: unmu surabaya, 1994), P. 101.

direction that thought to a place where building of ka'bah in Masjidil Haram, Mecca, Arab Saudi.¹⁶

According to scholar of Islam in fiqh book the Maadzahibil Arba'ah style Abdurrahman Al-Jaziri arrangement page 194, said the direction of Secca is direction of ka'bah or shape of ka'bah, show who's near to the shape of ka'bah and people who far from ka'bah (don't see it) so for them make effort to facing to the Mecca (only to the direction of Mecca).¹⁷

From the above understanding can be concluded that the direction of qibla is a direction that must be addressed by the ummah of islam when performing worship. A muslim when establishing a prayer must first determine which direction to face. Base on the proposed Syar'i proposition, the intended direction is the direction of qibla baitullah. One of the word of Allah SWT. Which indicates such things are:



That is: and where have you (exit), then at least your face toward the grand mosque. And wherever you (all) are, then your face towards it, so that there is no

¹⁶"Hisab dan pengukuran arah kiblat", in <https://lfnulumajang.wordpress.com/2013/04/23/hisab-dan-pengukuran-arrah-kiblat/>, accessed on March 22, 2017.

¹⁷ Sriyatin Shadiq KM, *Ilmu Falak*, P. 102.

authority for man to you, except those who do wrong, including the them. So do not fear them, and fear me (only). And that by refining favor upon you, and that you may be guided (Al-Baqarah: 150).

The argument that such hadith are sourced:

إِذَا قُمْتَ إِلَى الصَّلَاةِ فَأَسْبِغِ الْوُضُوءَ ثُمَّ
اسْتَقْبِلِ الْقِبْلَةَ فَكَبِّرْ

That is: if you want to do prayer, complete your wudu' and then facing the qiblah, then thrash (HR Bukhori no. 6251 and Muslim no. 912).

In the discourse of jurisprudence, attending to the direction of qiblah is one of the requirements of prayer that must be fulfilled, both obligatory and sunnah prayer. However, there are some exceptional circumstances.¹⁸ First, for those who fear, duress, or sickness are not allowed to pray facing Mecca on time. It is based as follows:



That is: if you fear (an enemy), pray while walking or driving, when you are secure, then remember Allah (before), as Allah has taught you what yo did not know (Al-Baqarah: 239).

¹⁸"Shalat adalah tiangnya agama", in <https://rumaysho.com/5911-shalat-adalah-tiang-agama.html>. Accessed on February 26, 2017.

Second, those who pray sunnah in this vehicle. This is based on the hadith of the prophet Bukhari from Jabir bin Abdullah, and also according to the chief Muslim, Tirmidi and Ahmad who said that the prophet Muhammad sunnah prayer on the vehicle, on the way from Mecca to Medina.

According to Ali As-Shabuni, about what's in the compulsory facing ainul temple or her enough time there are two different opinions: the first group believes that you are ordered overlooking ainul temple, two groups found for anyone who saw or witnessed ka'bah must face the right to get up, but for people who are far from the temple just facing him alone.¹⁹

The concept of understanding of the direction is still a matter of debate among scholars, especially in Indonesia, the direction is interpreted as going and facing, so that in this direction is understood as toward something straight. So in this sense, the earth is described as a so that it will be different from the understanding of the direction which is interpreted as the closest distance projected on the sphere.²⁰ The understanding of this direction will be more relevant if it is meant to be the closest distance, given the empirical reality, the direction that the muslim prayer is the qibla (direction of qibla).

Indonesia is relatively far away from the ka'ba, therefore it is imperative to do ijtihad absolutely to be done. It is as mentioned in the Imam Syafi'I Abu Abdullah Bin Idris that everyone who is in Mecca but not looking directly toward the holy house, or any person who resides outside of Mecca, if you want to the

¹⁹Imam Nurwanto, *"Penentuan arah kiblat masjid di dusun temuirang I kabupaten gunungkidul"*, Skripsi Uin Sunan Kalijaga Yogyakarta, 2013.

²⁰According to Saado'ddin Djambek referred to the direction is the closest distance measured through a large circle on the celestial sphere. Read more Susiknan Azhari, *ilmu falak*, P. 49.

prayer, then he should try earnestly searching the direction of qiblah by using the direction of stars, sun, moon, wind direction or whatever is in use to know the direction of qibla.²¹

On the way, the science of the direction of qibla is always, progressing from time to time. The qibla direction was quite roughly determined by an accurate method of the outcome. But over the times and the increase of human capabilities were born various methods and tools of measuring the direction of qibla that the results can be accounted for.

Methods that are in line with the direction of qibla are measurements using compass, measurement with the shadows of sunlight, measurement with a solar azimuth (theodolite), and using Rasd Al-Qibla (shadows of the ka'ba). In the application of the calculation of the direction of the qibla the place is divided into two stages. The first stage, hitting the direction of qibla by using the formula of measuring the ball triangle (consinus formula) and the second is the measurement of the field with the help of calculation results of the formula.

In this research, the writer will use a medium that is compass and trigonometry as methods of measuring the direction toward Mecca. Compass which can be used in trying measuring field research is direction toward Mecca which compass is suitable with the relevant area.

At the first step of measuring the direction toward Mecca is done by using trigonometry pattern. The tools needed are scientific calculator and compass. To use that form, it needs to know data like: latitude area, longitudinal area, latitude ka'bah,

²¹Imam Syafi'i, *Ringkasan kitab Al-Umm*, diterjemahkan oleh Abdullah Muhammad Bin Idris (Jakarta: Pustaka Azzam. 2004), P. 147.

and longitudinal ka'bah. To know latitude and longitudinal from an area which will be measured can be used GPS, while for latitude of ka'bah (21' 25') north and longitudinal of ka'bah (39' 50') east.²² The form to calculate it is:

$$\cot B = \frac{\cot b \sin a}{\sin c} - \cos a \cot c$$

Explanation:

B : the direction toward Mecca

A : 90' - latitude area

B : 90' - latitude ka'bah/ Mecca

C : longitudinal area - longitudinal ka'bah / Mecca

After calculating the direction toward Mecca by using form of spherical trigonometry is got so the second step is calculating of field direction toward Mecca. For finishing it is needed some of equipment like tripod, compass, right angle, calculator, arch, nail, lakban, seissors, big white thread. And then the step of measuring it is:

1. Setting the tripod and compass at right area like in form of mosque or inside of mosque by right position and also between the estimate of direction toward Mecca.
2. Setting the tripod, compass and remarking the central place by implanting nail.
3. Setting the white rope to nail which, has embaded to central place of compass.
4. Doing arrangement on setting compass.

²² A. Jamil, *Ilmu Falak*, (Jakarta: Amzah. 2009), P. 110.

5. Take aim the direction toward mecaa that is fix with the result of form of calculation at first step and remarking at flour of mosque.
6. The white rope should be alingned with sign of the direction toward Mecca and it is wrapped.
7. Remark the direction of Mecca by using lakban.
8. Measuring has done.

G. Research Method

1. Kind of Research

Conforming to the complication, so kind of research place research is done exactly in gathering primary data. So it is categorized as (field research).²³ These can be understood because the research which is done by the writer is done at unhabitant circle exactly in mosque if we observe from the result research consumption, aspect so this research belonging to (applaied research).²⁴ Furthermore, if it is observed from the way and level examining of problem aspect, so this research is included analytical descriptive research that is researcher strives to express. A problem, situation ar an accident as existence of object which is researched. Hence, the writer strives to interpred data which is composed so that the result of research will mare crucial to finish problem of direction toward mecca, especially for mosque which is used as sample research.

2. Object Research

²³ Hadari Nawawi, *Metode Penelitian Bidang Sosial* (Yogyakarta: Gadjah Mada University Press. 1987), P. 31.

²⁴ Hadari Nawawi, *Metode Penelitian Bidang Sosial*, P. 30.

In this research which will be object research is mosque that is available in Pademawu Sub-district, Pamekasan district Madura. The compiler uses samples 3 from 6 mosques that is Nurul Falah, As-Syuhada' and Al-Falah.

3. Assembling Data

This research, it is divided into some categories in assembling research technique as below:

a. Technical Observation Directly

This technique is one of ways in assembling data which is done in observing and putting on indications which appear object research. The description about mosque which is used as sample is inspected and taught in immediately get hooked the direction toward Mecca.

b. Measurement technique

This technique is used for collecting data that is quantitative, i.e. the measurement made related to the direction of qibla. In this technique included which is used to obtain the direction data of mosque sample. While the tools needed in this study include: Tripod, compass, right angle, calculator, bow and large white thread, duct tape, scissors and markers.

c. Direct communication techniques

This techniques is a way of collecting data that requires a researcher to have direct oral or face to face contact with a data source. This method is done by the author interviewing the informant i.e. some community leaders and religious leaders in the districts Pademawu. The authors compiled a list of questions which contained some of the historical matters of the founding of the

mosque, the fiqh used, and the history of measuring the direction of the qibla that already exists.

To obtain secondary data, this study used data collection technique of document study. What is meant is that the data is traced through the books of astronomers, as well as magazines, and articles of astronomical research.

4. Data analysis

Analysis of the true data is a way to test a problem formulation or to know conformity with the facts that support or reject the formulation of the problem. In this case there is a hypothesis is a result of the concepts of problem formulation and theoretical framework as well as the purpose of sharp research, which will then be tested the truth through data analysis or facts generated through research.

In this study, the collected data is qualitative data which will then be elaborated by using descriptive method. Data analysis uses deductive thinking construction, where general thoughts about the direction of qibla will be described in the early chapters, then in the final chapters will be drawn conclusions that are specific to the sample case.